XR-7170/7171/7172

SERVICE MANUAL

AEP Model
XR-7170/7171
E Model
XR-7170
Germany Model
XR-7172

Photo: XR-7170

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MG-55L2-31

SPECIFICATIONS

Power amplifier section

Outputs: Speaker outputs (sure seal connectors)
Speaker impedance: 3.2 – 8 ohms
Maximum power output: 20 W × 4 (at 4 ohms)*
*Measured at 14.4 V

Cassette player section

Tape track: 4-track 2-channel stereo
Frequency response: 30 – 18,000 Hz

Signal-to-noise ratio

Cassette type	Dolby B	Dolby C	Dolby off
TYPE II, IV	66 dB	76 dB	58 dB
TYPE I	63 dB	73 dB	55 dB

Wow and flutter: 0.1% (WRMS)

Tuner section

FM

Tuning range: 87.5 – 108.0 MHz
Antenna terminal: External antenna connector
Intermediate frequency: 10.7 MHz
Usable sensitivity: 12 dBf (75 ohms)
Selectivity: 75 dB at 400 kHz
Signal-to-noise ratio: 65 dB (stereo), 70 dB (mono)
Harmonic distortion at 1 kHz: 0.5% (stereo), 0.3% (mono)
Separation: 35 dB at 1 kHz
Frequency response: 30 – 15,000 Hz
Capture ratio: 2 dB

AM (XR-7170/7172)

Tuning range: European and other countries
531 – 1,602 kHz
(at 9 kHz step)
Central and South American countries (XR-7170)
530 – 1,620 kHz
(at 10 kHz step)
AM tuning interval
9 kHz/10 kHz switchable
Antenna terminal: External antenna connector
Intermediate frequency: 450 kHz
Sensitivity: 35μV

– Continued on next page –

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.

使用時は添付資料も参照のこと
Refer to the accessories documents

FM/AM CASSETTE CAR STEREO

SONY®

SECTION 4
DIAGRAMS

4-1. IC301 (μPD75516G) FUNCTIONAL DESCRIPTION

IC301 (μPD75516G) DESCRIPTION

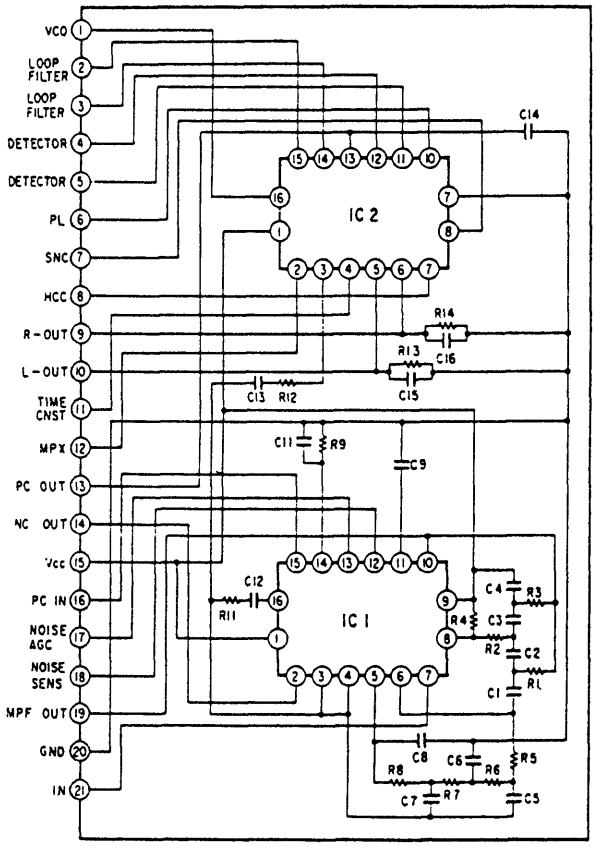
Pin No.	Name	I/O	Description
1	AO	I	Destination setting input.
2	AVREF	I	A/D converter reference voltage input.
3	VDD	—	Positive power input.
4	VDD	—	
5	LM+	O	Forward rotation motor control.
6	LM-	O	Reverse rotation motor control.
7	DPL	O	Direction plunger.
8	DPM	O	Capstan motor control.
9	POS3	I	Tape mechanical deck position switch.
10	POS2	I	
11	POS1	I	
12	POS0	I	
13	MUTE	O	Muting control.
14	COLOR	O	Color illumination switching control.
15	VOLCE	O	Electronic volume enable signal.
16	LCDCE	O	LCD driver enable signal.
17	DATA IN	I	Information input from PLL-IC.
18	DATA OUT	O	Serial data output.
19	CLK OUT	O	Serial transmission clock.
20	PLLCE	O	PLL-IC enable signal.
21	KI3	I	Key information input.
22	KI2	I	
23	KI1	I	
24	KI0	I	
25	KO7	O	Key-return signal source.
26	KO6	O	
27	KO5	O	
28	KO4	O	
29	KO3	O	
30	KO2	O	
31	KO1	O	
32	KO0	O	

Pin No.	Name	I／O	Description
33	GND	—	Ground.
34	SIG2	O	Audio-signal switching signal.
35	SIG1	O	
36	AUX-ON	O	AUX signal ON.
37	PPA MUTE	O	PW-AMP mute.
38	METAL	I／O	Metal select.
39	DOLBY	O	Dolby ON/OFF select.
40	DOLBY-C	O	Dolby B/C select. (H: B, L: C)
41	STEREO	I／O	Auto stereo/forced monochrome select.
42	PTUNER	O	Tuner power-antenna output.
43	ILL-ON	O	Illumination output.
44	POWER	O	System power output.
45	BEEP	O	Buzzer output signal (2KHz/1KHz).
46	DK	I	DK signal input.
47	SK	I	SK signal input.
48	BK	I	BK signal input.
49	REMCOM	I	Remote control input.
50	CD-DATA-IN	I	Auto changer information input.
51	—	—	—
52	CD-CLK-IN	I	CD data input clock.
53	BU-CHECK	I	Back-up check.
54	—	—	—
55	—	—	32.7 kHz.
56	—	—	Subsystem clock.
57	—	—	—
58	—	—	4.19 MHz.
59	—	—	Main system clock.
60	RESET	I	Reset input.
61	CD-DATA	O	CD data transmission data line.
62	CD-CLK	O	CD data transmission clock line.
63	DSPSEL	O	Display-select.
64	OUT-RUN	O	AUX-STOP signal.
65	CD-MUTE	I	CD mute request input.

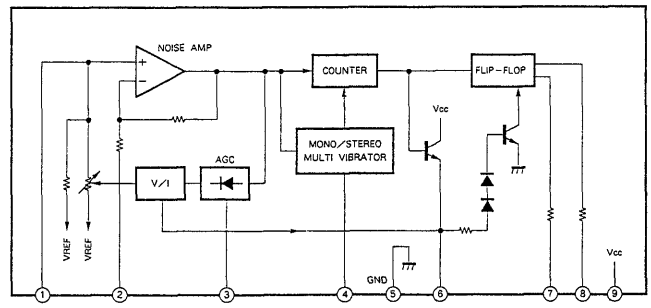
Pin No.	Name	I／O	Description
66	CD-CHECK	I	CD loaded/not loaded check.
67	AUX-MUTE	I	AUX mute request input.
68	REM-IN	I	AUX operation request input.
69	HANDLE	I	Handle switch input.
70	—	—	—
71	N/R	I	Tape-running direction input. (L: normal, R: reverse)
72	AMS/IN	I	Tape audio signal input.
73	—	—	—
74	ACC	I	Accessory input.
75	LINE-IN	I	Equalizer remote input.
76	REEL2	I	Feed reel input.
77	REEL1	I	Take-up reel input.
78	TEST	I	Test mode switch.
79	A2	I	Regions setting input.
80	A1	I	

• IC Block Diagrams

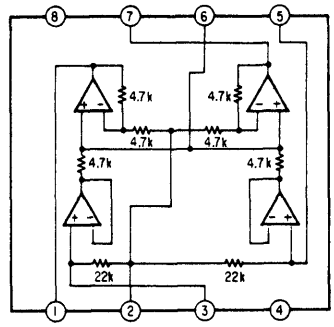
IC1 STK-3400



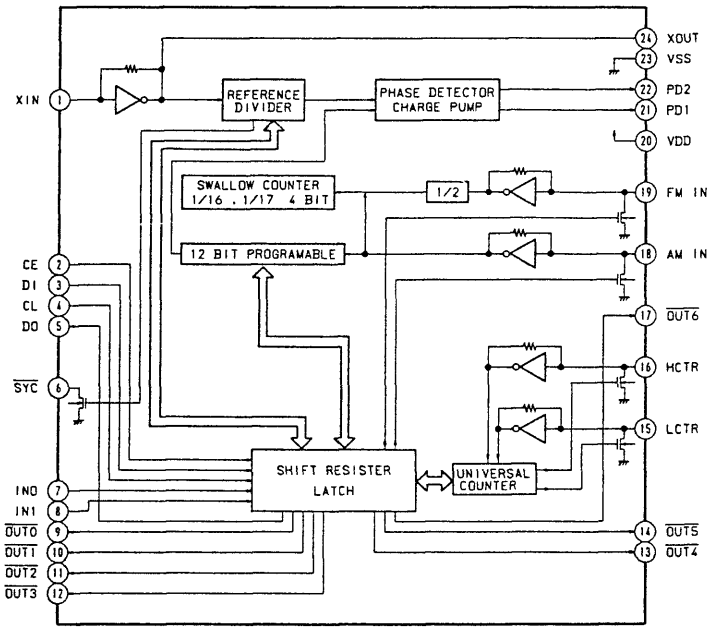
IC51 LA1060



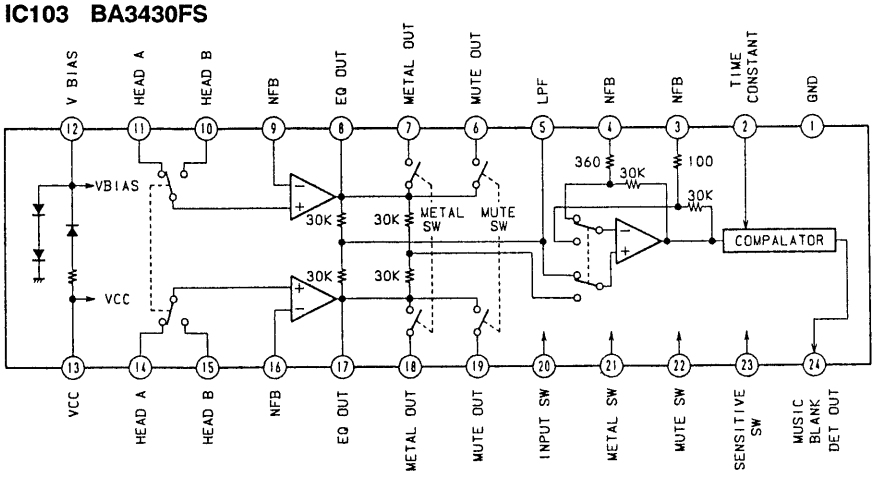
IC102 M5280FP



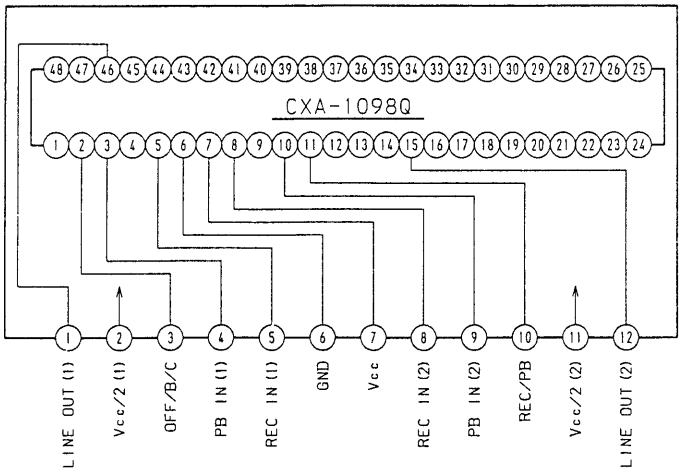
IC2 LC7218M



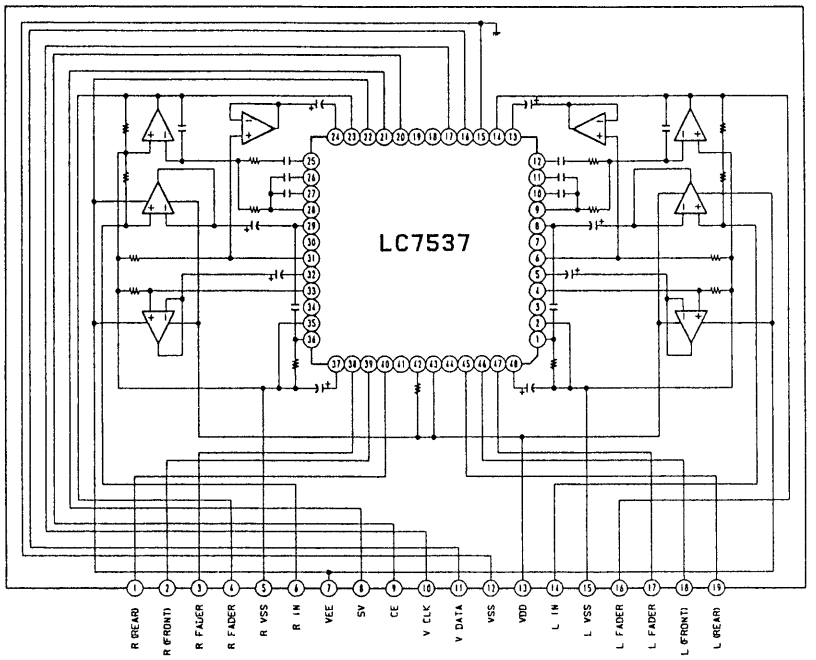
IC103 BA3430FS



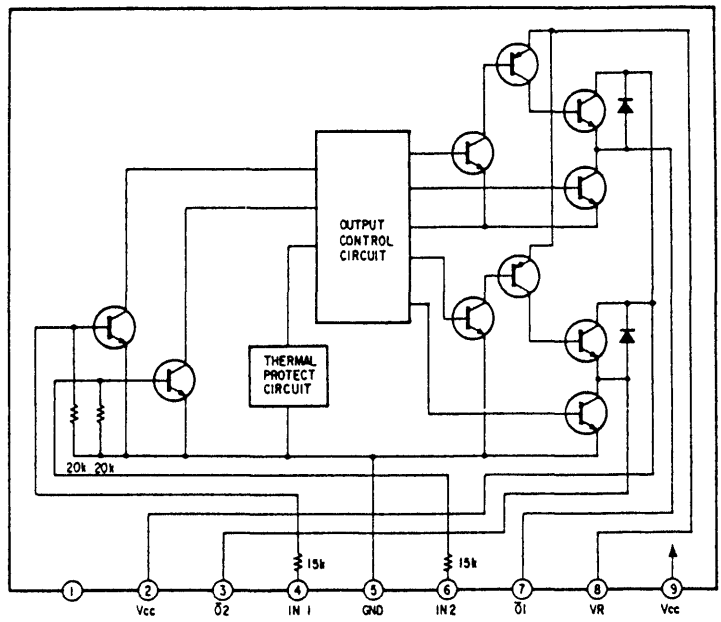
IC105 NR9561



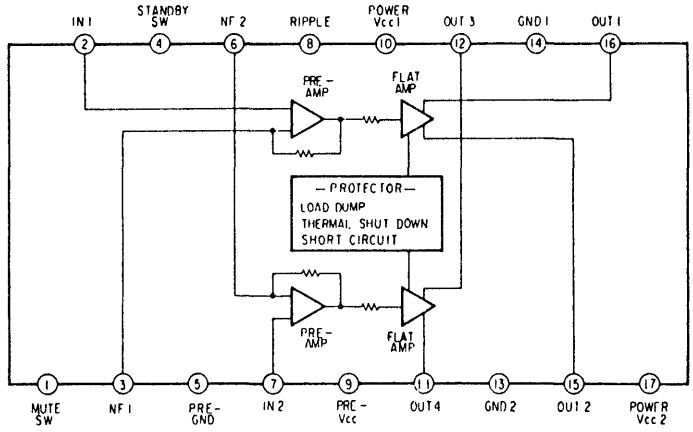
IC106 EV1200



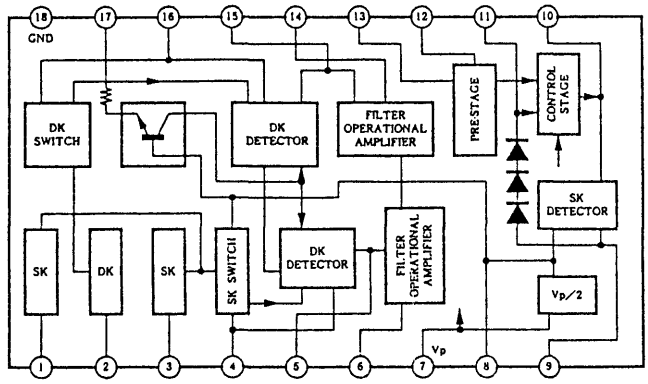
IC401 M54644BL

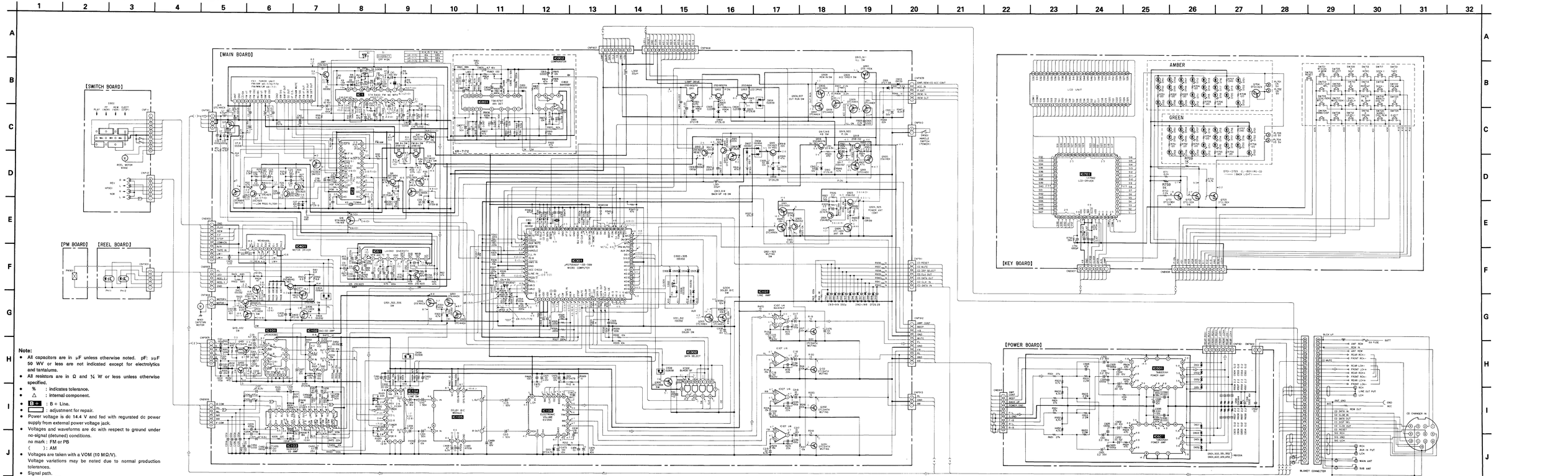


IC501, 601 TA8205HA



IC801 TDA1579





Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- B+ : B + Line.
- : adjustment for repair.
- Power voltage is dc 14.4 V and fed with regurated dc power supply from external power voltage jack.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM or PB
  ( ) : AM
- Voltages are taken with a VOM (10 MΩ/V). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM ⇨ : PB

4-3. PRINTED WIRING BOARDS

• Semiconductor Lead Layouts

BA14741F
BU4081BF

(TOP VIEW)

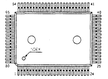
M54644BL

TA8215H

BA3430FS
LC7218M

(TOP VIEW)

μ PD75516GF-274-3B9



MARKING SIDE VIEW

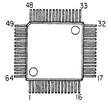
BU4052BF
μ PD4053BG

(TOP VIEW)

DTA114EK
DTA144EK
DTC114EK
DTC144EK
DTC314TKH04
DTD113EK
2SA1162
2SC1623

LA1060

LC7582

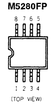


2SB1115A
2SD1615A-GP

2SD1760-F5-Q

1. BASE
2. COLLECTOR
3. EMITTER
4. COLLECTOR

M5280FP

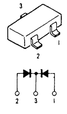


(TOP VIEW)

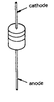
DSA3A4

DTZ11B
DTZ4.7C
DTZ5.6B
DTZ6.2B
DTZ9.1B
1SS318
1SS332

MA152WK



RB-100A
1SR139-400



1S2836

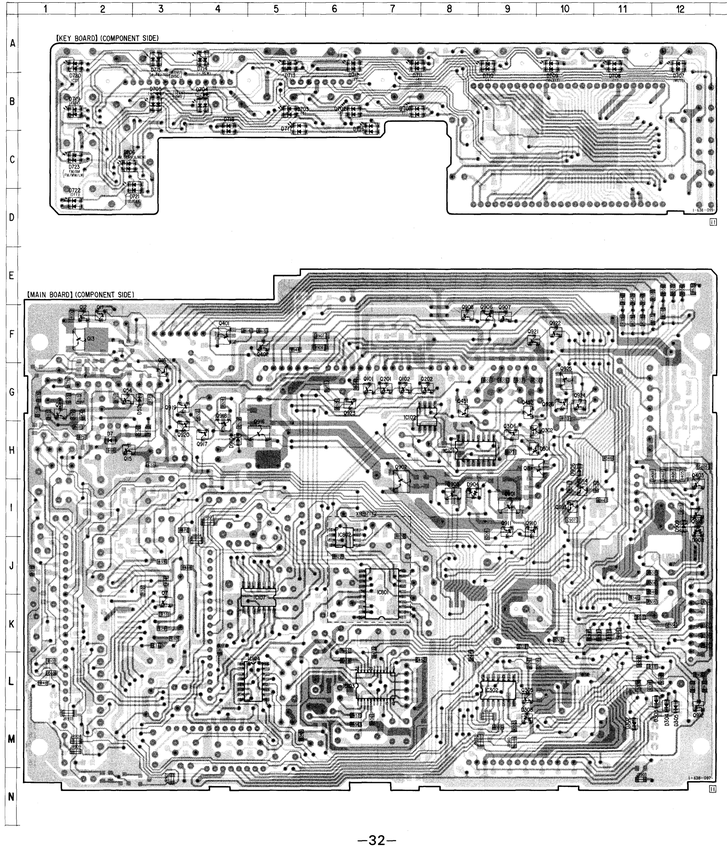
CL-155Y/PG-CD

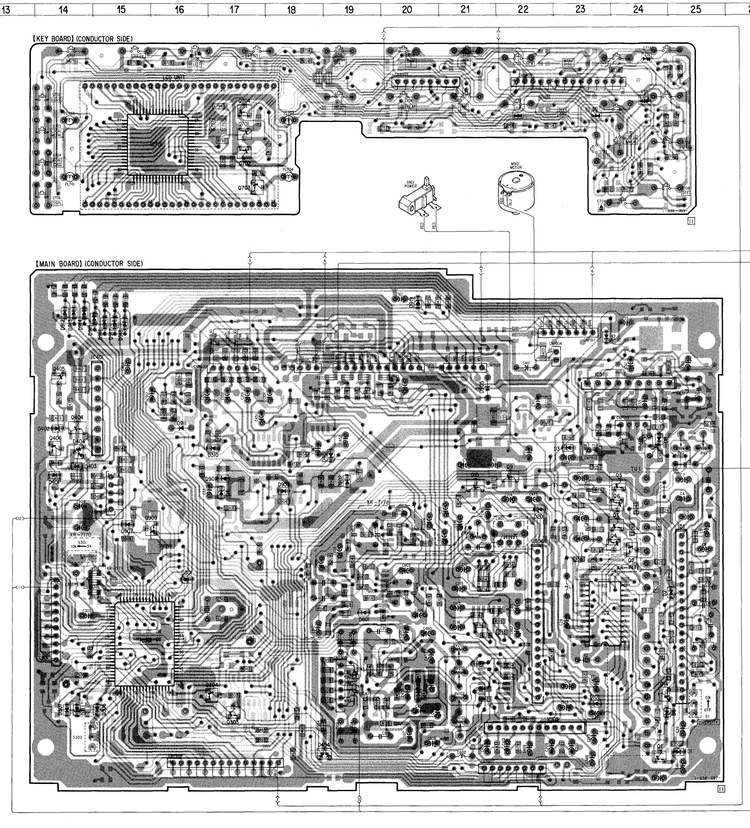
• Semiconductor Location

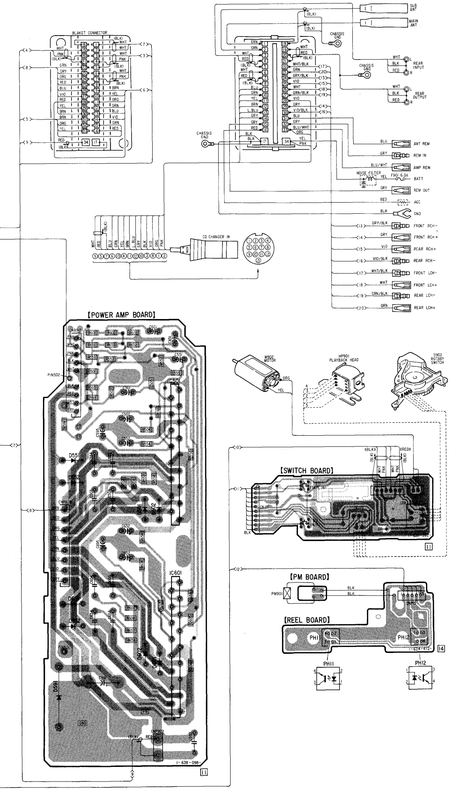
Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D1	M-25	D720	A-1	Q10	I-21
D2	J-25	D721	C-3	Q11	F-2
D3	H-23	D722	D-1	Q12	F-2
D4	I-17	D723	C-1	Q13	F-2
D5	F-23	D801	K-19	Q14	L-24
D6	M-24	D901	H-17	Q15	K-2
D7	H-2	D902	I-19	Q16	G-3
D8	H-24	D903	I-18	Q51	G-1
D52	G-3	D904	I-8	Q54	G-2
D101	L-23	D905	G-21	Q101	G-7
D201	I-22	D906	H-10	Q102	G-7
D301	J-16	D907	I-15	Q201	G-7
D302	M-11	D908	I-12	Q202	G-8
D303	L-12	D909	I-12	Q301	H-9
D304	L-12	D910	H-4	Q302	H-9
D305	L-12	D911	H-16	Q303	M-17
D306	L-15	D912	F-14	Q304	L-17
D307	L-14	D913	F-14	Q305	L-9
D308	M-9	D914	F-14	Q306	H-9
D310	H-17	D915	F-15	Q401	F-4
D311	L-14	D916	F-15	Q402	F-5
D401	H-14	D917	F-15	Q403	I-12
D402	H-14	D918	F-15	Q404	H-14
D403	H-14	D919	E-20	Q405	G-14
D404	H-14			Q406	H-14
D451	H-19	IC1	J-25	Q451	G-8
D452	L-20	IC2	K-23	Q452	G-9
D454	M-19	IC51	G-24	Q701	C-17
D501	I-28	IC101	H-8	Q702	C-17
D502	I-29	IC102	G-8	Q703	C-17
D551	I-27	IC103	L-7	Q704	B-17
D552	I-27	IC104	L-5	Q901	I-9
D591	M-27	IC105	M-22	Q902	I-7
D601	L-29	IC106	J-22	Q903	I-9
D602	L-28	IC107	K-5	Q906	F-9
D651	K-27	IC301	K-15	Q907	F-9
D652	K-27	IC302	L-9	Q908	F-8
D701	B-7	IC401	G-15	Q909	I-16
D702	B-6	IC501	H-29	Q910	I-9
D703	B-5	IC601	K-29	Q911	I-9
D704	B-4	IC701	C-16	Q912	L-12
D705	B-3	IC801	J-7	Q913	I-10
D706	C-2	IC802	J-6	Q914	I-10
D707	A-12			Q915	I-12
D708	A-11	PH11	L-32	Q916	H-5
D709	A-10	PH12	L-33	Q917	H-4
D710	A-9			Q918	H-4
D711	A-7	Q1	M-24	Q919	G-3
D712	A-6	Q2	J-24	Q920	H-3
D713	A-5	Q3	I-24	Q921	F-9
D714	A-4	Q4	J-24	Q922	F-10
D715	A-3	Q5	I-24	Q923	G-6
D716	B-7	Q6	I-24	Q924	G-10
D717	B-5	Q7	K-3	Q925	G-10
D718	B-4	Q8	H-10	Q926	G-10
D719	B-1	Q9	H-22		

Note:

- ○——— : parts extracted from the component side.
- ● : Through hole.
- ▒▒▒ : Pattern on the side which is seen.
- ▒▒▒ : Pattern of the rear side.





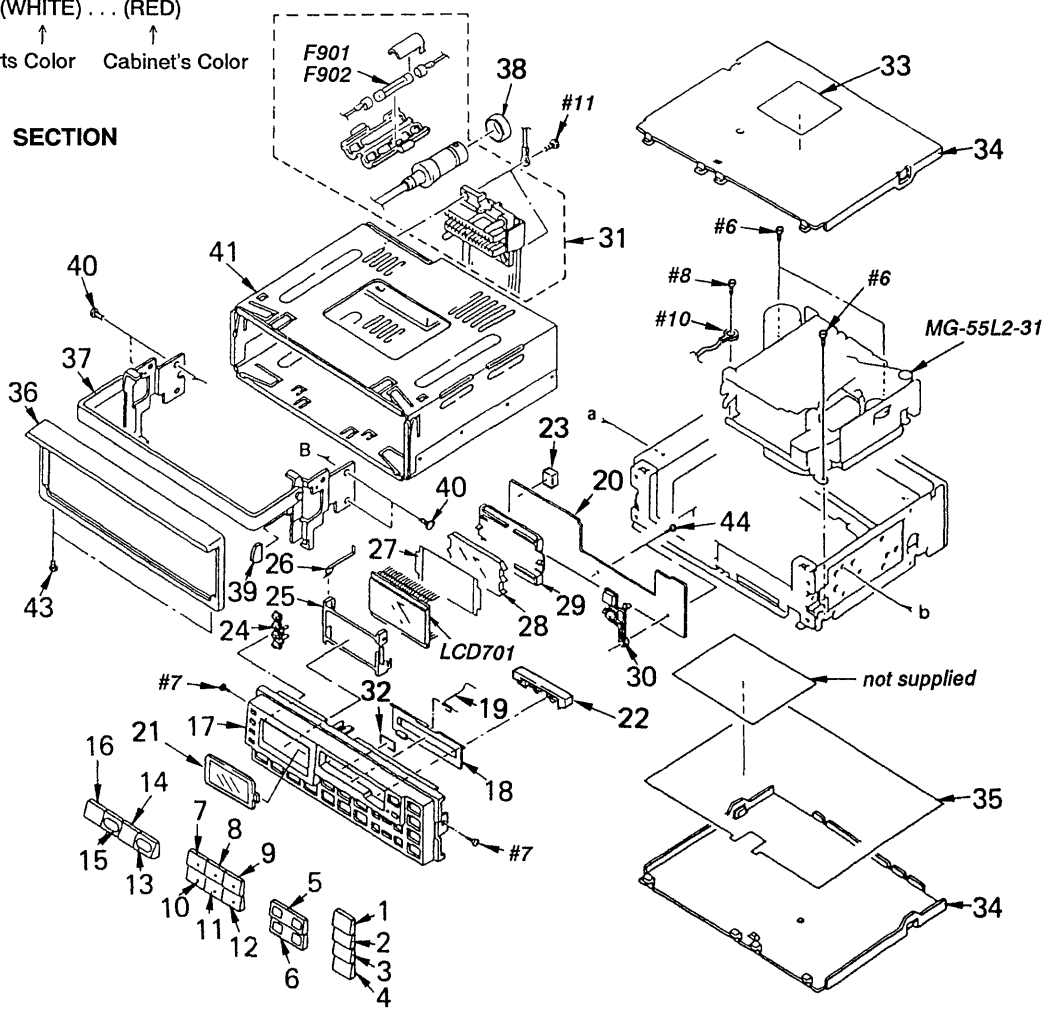


SECTION 5
EXPLODED VIEWS

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

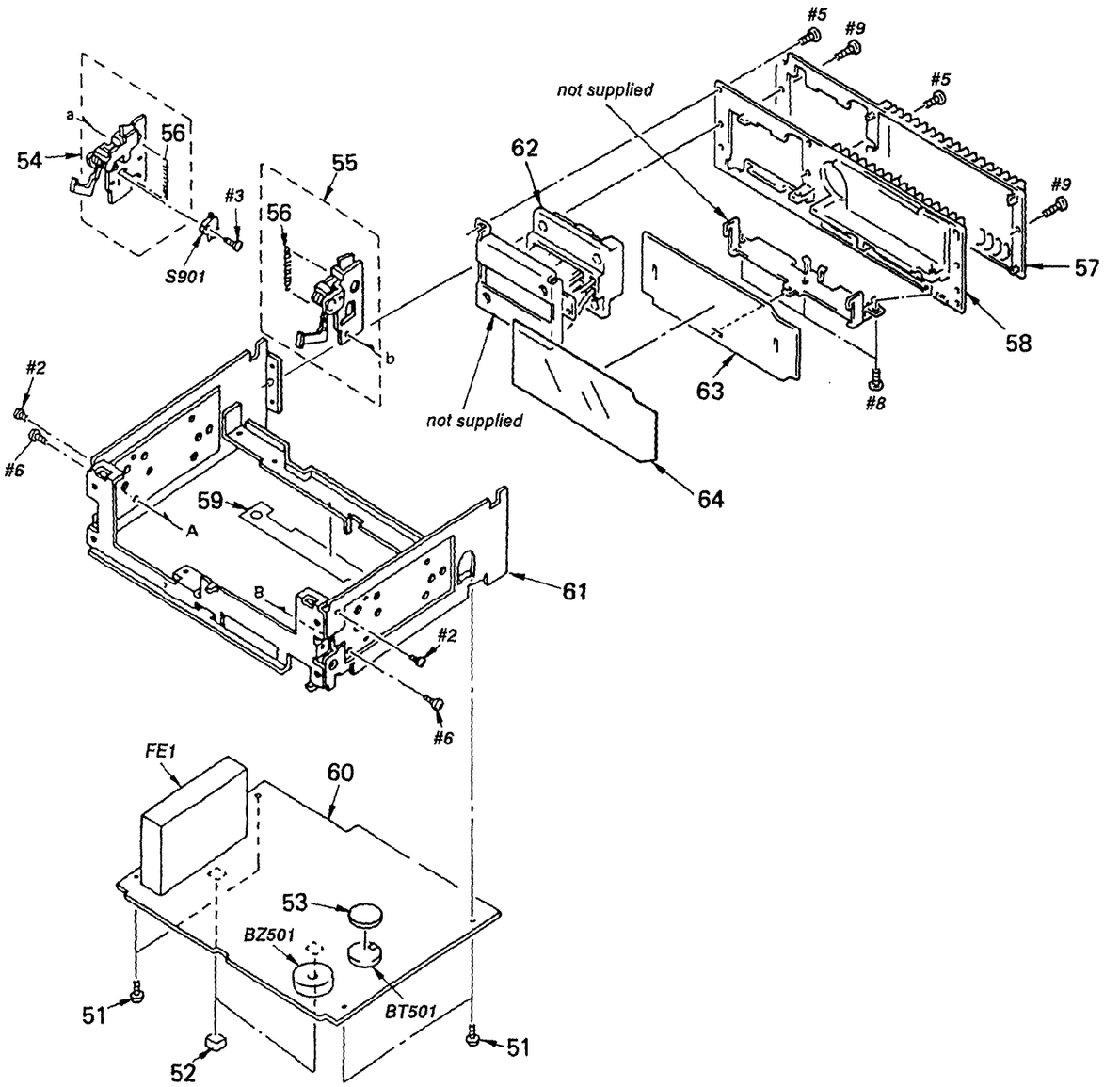
(1) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
1	3-366-642-01	BUTTON (RU) (OFF)	
2	3-366-643-01	BUTTON (RM) (FM/AM) (XR-7170/7172)	
	3-366-643-11	BUTTON (RM) (FM/MW/LW) (XR-7171)	
3	3-366-643-21	BUTTON (RM) (TAPE, PD)	
4	3-366-644-01	BUTTON (RD) (CD)	
5	3-366-645-01	BUTTON (SEEK/AMS)	
6	3-366-641-01	BUTTON (MANU/DISC)	
7	3-366-647-01	BUTTON (PRESET/L) (1)	
8	3-366-648-01	BUTTON (PRESET/M) (2)	
9	3-366-649-01	BUTTON (PRESET/R) (3)	
10	3-366-647-11	BUTTON (PRESET/L) (4)	
11	3-366-648-11	BUTTON (PRESET/M) (5)	
12	3-366-649-11	BUTTON (PRESET/R) (6)	
13	3-366-634-01	BUTTON (LEVEL: +)	
14	3-366-635-01	BUTTON (SELECT)	
15	3-366-636-01	BUTTON (LEVEL: -)	
16	3-366-650-01	BUTTON (MUTE) (XR-7170/7171)	
	3-366-650-11	BUTTON (SDK) (XR-7172)	
17	3-366-632-01	PANEL, FRONT	
18	3-358-631-11	DOOR, CASSETTE (XR-7170)	
18	3-358-631-21	DOOR, CASSETTE (XR-7171)	
	3-358-631-31	DOOR, CASSETTE (XR-7172)	
19	3-349-454-01	SPRING (C DOOR), TORSION	
20	* A-3273-334-A	MOUNTED PCB (B), KEY	
21	3-366-638-01	PLATE, INDICATION	

Ref. No.	Part No.	Description	Remark
22	3-366-639-01	PLATE (C DOOR), LIGHT GUIDE	
23	9-911-841-XX	CUSHION, CASSETTE LID	
24	3-366-637-01	BUTTON (4 GANG) (W)	
25	3-357-091-01	PLATE (LCD), GROUND	
26	3-327-119-01	SPACER (A)	
27	3-349-440-01	SHEET (REFLECTOR)	
28	* 3-357-086-01	PLATE (LCD), LIGHT GUIDE	
29	* 3-357-087-01	HOLDER (LCD)	
30	3-366-646-01	BUTTON (EJECT)	
31	1-590-471-11	CORD (WITH CONNECTOR)	
32	3-831-441-XX	SPACER	
33	* 3-368-303-01	LABEL, MODEL NUMBER (AE) (XR-7171)	
	3-368-302-01	LABEL, MODEL NUMBER (AE) (XR-7170)	
	* 3-368-304-01	LABEL, MODEL NUMBER (AE6) (XR-7172)	
34	* 3-353-402-11	COVER	
35	* 3-344-560-71	INSULATOR (3)	
36	3-344-564-01	FRAME, ORNAMENTAL	
37	X-3363-086-1	HANDLE ASSY	
38	3-566-347-00	COVER (A), CONNECTOR	
39	3-344-526-02	BUTTON (RELEASE)	
40	3-344-561-21	SCREW (M4X4)	
41	* X-3344-509-3	BRACKET ASSY	
F901	1-532-508-11	FUSE 8A	
F902	1-532-409-11	FUSE 0.315A	
LCD701	1-808-773-11	DISPLAY PANEL, LIQUID CRYSTAL	

(2) CHASSIS SECTION

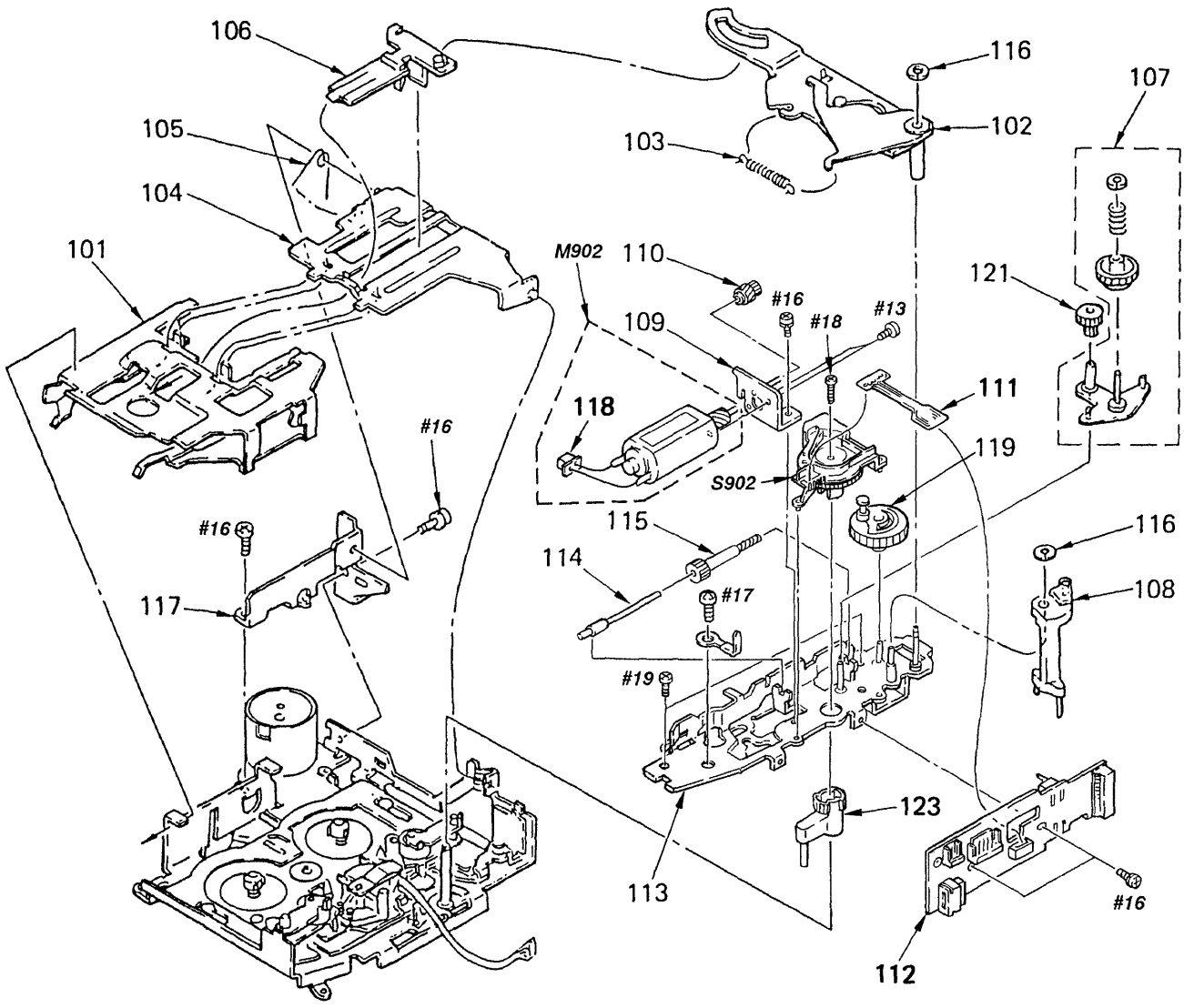


Ref. No.	Part No.	Description	Remark
51	3-344-501-11	SCREW (+ PTT 3X8), GROUND POINT	
52	9-911-841-XX	CUSHION, CASSETTE LID	
53	* 3-896-343-01	SHEET, INSULATING	
54	X-3344-502-1	LOCK ASSY (LEFT)	
55	X-3344-503-1	LOCK ASSY (RIGHT)	
56	3-645-189-00	SPRING, TENSION	
57	* 3-357-097-01	COVER	
58	* 3-357-093-01	HEAT SINK	
59	* 3-353-458-01	INSULATOR (CHASSIS)	

Ref. No.	Part No.	Description	Remark
60	* A-3222-220-A	MAIN BOARD, COMPLETE (XR-7170)	
	* A-3222-231-A	MAIN BOARD, COMPLETE (XR-7171)	
	* A-3222-228-A	MAIN BOARD, COMPLETE (XR-7172)	
61	* X-3362-710-1	CHASSIS ASSY	
62	1-590-470-11	CORD (WITH CONNECTOR)	
63	* 1-638-098-11	POWER BOARD	
64	* 3-358-653-01	SHEET (POWER), INSULATING	
S901	1-570-771-11	SWITCH	

SEE ADDITIONAL INFORMATION

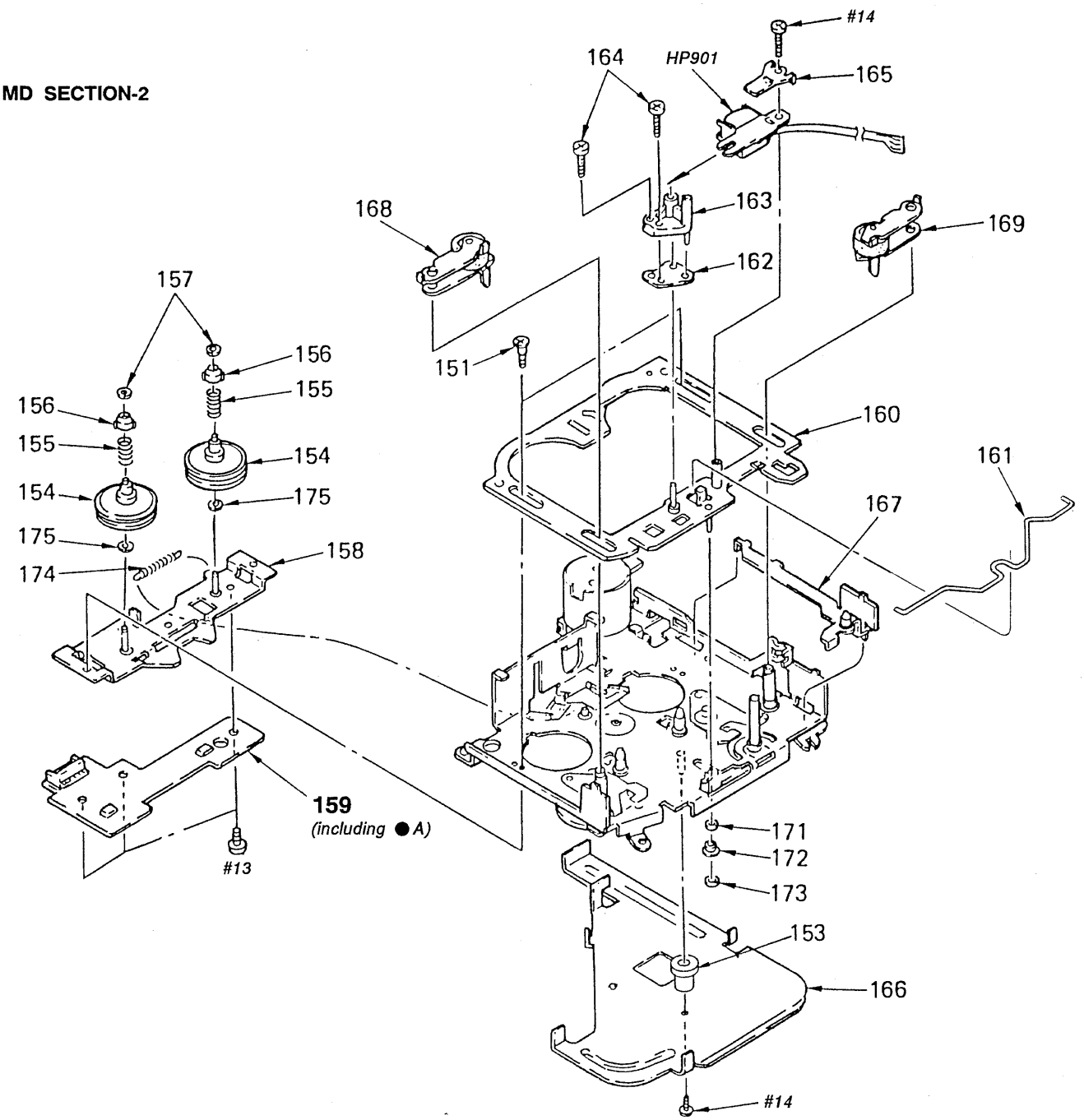
(3) MD SECTION-1



No.	Part No.	Description	Remarks
101	*3-344-103-21	HOUSING, CASSETTE	
102	*X-3344-121-1	ARM ASSY, SUCTION	
103	3-344-216-01	SPRING (SUCTION ARM), TENSION	
104	*X-3362-262-1	HANGER(F) ASSY, HOUSING	
105	3-344-113-01	SPRING	
106	*3-344-118-01	CATCHER	
107	A-3239-954-A	GEAR ASSY, DRIVING ARM	
108	*3-344-260-01	ARM, REVERSE	
109	*X-3344-142-2	BRACKET ASSY, MOTOR	
110	3-344-281-01	GEAR (A), DRIVING	
111	*1-638-563-11	SWITCH FLEXIBLE BOARD	
112	*1-638-562-11	SWITCH BOARD	
113	*X-3362-260-3	CHASSIS(F) ASSY, MCU	

No.	Part No.	Description	Remarks
114	*3-344-157-03	SHAFT, DRIVING GEAR (B)	
115	3-344-156-01	GEAR (B), DRIVING	
116	3-344-222-01	WASHER	
117	*3-344-112-13	BRACKET, HANGER	
118	*1-563-470-11	HOUSING, CONNECTOR 2P	
119	X-3344-119-1	GEAR ASSY, LOADING CAM	
121	3-344-108-01	GEAR (A), FRICTION	
123	X-3344-117-3	ARM ASSY, MODE	
M902	A-3239-956-B	MOTOR SUB ASSY, L	
S902	1-572-397-11	SWITCH, ROTARY SLIDE	

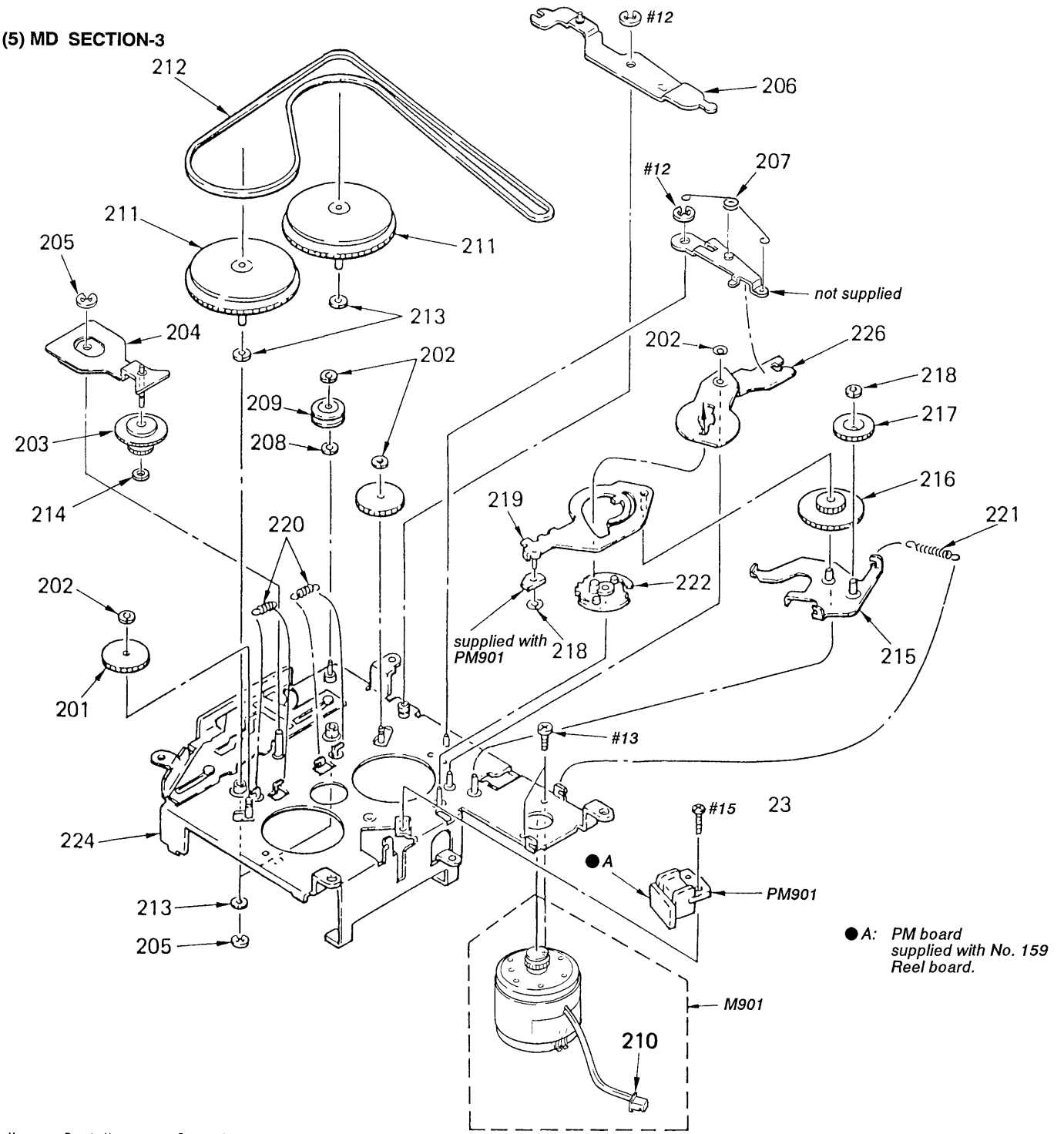
(4) MD SECTION-2



No.	Part No.	Description	Remarks
151	3-344-110-01	SCREW (HB), STEP	
153	3-344-251-01	RETAINER, MODE LEVER	
154	X-3362-213-1	TABLE(L) ASSY, REEL	
155	3-344-143-01	SPRING (BT), COMPRESSION	
156	3-365-725-01	CAP(F), REEL	
157	3-364-151-01	WASHER	
158	*X-3344-105-2	BRACKET ASSY, REEL TABLE	
159	*1-624-412-14	REEL BOARD	
160	*X-3362-261-1	BASE ASSY(R), HEAD	
161	3-363-909-01	SPRING (RATTLE), PINCH PRESS	
162	3-344-128-03	SEAM, DAH	
163	3-344-127-02	ARM, DAH	
164	3-364-122-01	SCREW, (M1.4X5.5), ADJ	

No.	Part No.	Description	Remarks
165	3-344-130-01	RETAINER, HEAD	
166	*3-344-220-03	COVER, MD	
167	*X-3344-118-3	LEVER ASSY, RVS CONVERSION	
168	X-3344-116-6	ARM (F) ASSY, PINCH	
169	X-3344-115-5	ARM (R) ASSY, PINCH	
171	3-344-117-01	ROLLER (B), H/B	
172	3-344-116-02	ROLLER (A), H/B	
173	3-344-222-01	WASHER	
174	3-344-217-02	SPRING (CAM LOCK LEVER), TENTION	
175	3-701-437-01	POLY-WASHER ϕ1.2	
HP901	1-543-726-11	HEAD, MAGNETIC (PLAYBACK)	

(5) MD SECTION-3



● A: PM board supplied with No. 159 Reel board.

No.	Part No.	Description	Remarks
201	3-344-104-01	GEAR, PLAY	
202	3-344-222-01	WASHER	
203	X-3344-102-6	GEAR ASSY, FR	
204	*X-3344-101-5	ARM ASSY, FR	
205	3-590-768-00	RING (A), E	
206	*X-3344-139-1	ARM ASSY, POWER	
207	3-344-279-01	SPRING, BUFFER	
208	3-701-436-01	WASHER, 1.6	
209	3-344-263-01	PULLEY (ASSY), MIDWAY	
210	*1-563-470-11	HOUSING, CONNECTOR 2P	
211	3-344-261-01	FLYWHEEL (M)	
212	3-344-115-01	BELT	
213	3-590-770-01	POLY-SLIDER (A)	
214	3-344-224-01	WASHER	
215	*X-3344-106-1	LEVER ASSY, RVS GEAR (B)	

No.	Part No.	Description	Remarks
216	3-344-146-01	GEAR (B), RVS	
217	3-344-147-01	GEAR (A), RVS	
218	3-344-223-01	WASHER	
219	X-3344-107-2	LEVER ASSY, CAM LOCK	
220	3-344-218-02	SPRING (PLAY ARM), TENSION	
221	3-344-215-01	SPRING, TENSION	
222	3-344-119-02	GEAR, RVS CAM	
224	*X-3363-049-1	CHASSIS (L2) ASSY, MECHANICAL	
226	*X-3344-114-2	LEVER ASSY, RVS	
M901	X-3344-136-1	MOTOR SUB ASSY, CAPSTAN	
PM901	1-454-461-12	SOLENOID, PLUNGER	

XR-7170/7171/7172

SONY

SERVICE MANUAL

AEP Model
XR-7170/7171
E Model
XR-7170
German Model
XR-7172

CORRECTION-1

Correct your service manual as shown below.

____ (Under line) : indicates corrected portion.

Page	INCORRECT			CORRECT		
	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
37	M902	A-3239-956-B	MOTOR SUB ASSY, L	M902	X-3362-826-1	MOTOR GEAR ASSY

(SPM-96041)

9-956-287-91

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